

Remarks

This Amendment is in response to the Office Action mailed Nov. 4, 2004. In the Office Action, a shortened statutory period of three (3) months was specified so that the due date for the response is on or before Feb. 4, 2004. A short review of the status of the claims is appropriate.

The application was filed with claims 1-5. The Examiner objected to Figure 3 as not being of sufficient quality to permit examination. Claim 1 was objected to because of a noted informality. Claim 2 was rejected under 35 U.S.C. § 112. Claims 1, 2 and 4 were rejected as being anticipated under 35 U.S.C. § 102(e) by Lee (US 2002/0146076 A1) ("Lee application"), and claims 3 and 5 were objected to as being dependant upon rejected claim 1 but were indicated to be allowed if rewritten in independent form.

In response to Examiner's objection to FIG. 3, a replacement drawing sheet that is compliant with 37 CFR 1.121(d) is submitted herewith. The replacement drawing sheet is of a formal nature and does not introduce any new matter.

Claim 1 has been amended to overcome Examiner's objection due to the noted informality in the means-plus-function language. Claim 1 has also been amended to include the limitations of claim 5. In that regard, Claim 1 has been further amended for clarity.

Applicant notes the Examiner's 35 U.S.C. § 112 issue with the word "substantially" in Claim 2. The MPEP 2173.05(b), however, makes clear that the term "substantially" is not inherently objectionable. It can be allowed as a term which is definite because one of ordinary skill in the art would know what is meant by "substantially identical" when referring to two communication channels.

Claim 4 has been amended to align with acceptable claim drafting principles regarding antecedent basis.

Claims 1-4 have also been amended to further clarify the invention. Because the amendments to claims 1-4 are of a clarifying nature, they do not introduce any new matter.

In response to Examiner's rejection of claims 1,2 and 4 as being anticipated by Lee, it appears the Examiner meant to refer to U.S. Patent Application Publication to Feller (US 2001/0015107) ("Feller application") and instead erroneously cited Lee (US 2002/0146076 A1), the publication of the Applicant's instant application. Applicant respectfully submits that Applicant's invention is patentably distinct from Feller's devices and method. Regardless, since Claim 1 has now been amended to include the features of claim 5, the rejection based on Feller is moot.

Amended claims 2, 3 and 4, depend from claim 1 and therefore include all of the elements and limitations of claim 1.

A new drawing sheet containing FIG. 4 has been added to further depict Applicant's invention. New FIG. 4 includes the details of FIG. 1 (e.g., the filter blocks, the re-sampler blocks, the calc. compare block) and incorporates the redundant communication channels between the transmitting and receiving relays illustrated in FIG. 3. As such, FIG. 4 is fully supported by the original disclosure and does not constitute new matter.

For example, the local sample block 202 of new FIG. 4 is illustrated as LPF block 12, A/D block 20, CAL. block 24, FILTER block 26, PROTECTION block 28 and FREQ. TRACK block 22 of FIG. 1;

the first alignment block 208 of new FIG. 4 is illustrated as RESAMPLE blocks 30, 42, and 48 and DELAY block 40 of FIG. 1, associated with the first communication channel

100 of FIG. 3;

the second alignment block 216 of new FIG. 4 is illustrated as RESAMPLE blocks 30, 42, and 48 and DELAY block 40 of FIG. 1, associated with the second communication channel 102 of FIG. 3;

the first filter block 230 of new FIG. 4 is illustrated as FILTER blocks 44 and 50 of FIG. 1, associated with the first communication channel 100 of FIG. 3;

the second filter block 240 of new FIG. 4 is illustrated as FILTER blocks 44 and 50 of FIG. 1, associated with the second communication channel 102 of FIG. 3;

the first calc compare block 250 of new FIG. 4 is illustrated as the CALC. COMPARE block 46 of FIG. 1, associated with the first communication channel 100 of FIG. 3;

the second calc compare block 256 of new FIG. 4 is illustrated as the CALC. COMPARE block 46 of FIG. 1, associated with the second communication channel 102 of FIG. 3;

the first ping/pong monitor block 260 of new FIG. 4 is illustrated as the XMIT block 32, the PING PONG block 36 and the RCV block 38 of FIG. 1, associated with the first communication channel 100 of FIG. 3. Furthermore, paragraph [0036] states that the two communication lines 100 and 102 can be recognized as being faulty “by any conventional means”;

the second ping/pong monitor block 266 of new FIG. 4 is illustrated as the XMIT block 32, the PING PONG block 36 and the RCV block 38 of FIG. 1, associated with the second communication channel 102 of FIG. 3. Furthermore, paragraph [0036] states that the two communication lines 100 and 102 can be recognized as being faulty “by any

conventional means”; and

the selection logic block 270 of new FIG. 4 is illustrated as the microcontroller based “switch” of FIG. 3, it being understood that the functionality provided by each of the blocks of the first relay 200 of new FIG. 4 is the result of operation of a microprocessor of the microcontroller, executing a number of computer programs or routines stored in a memory of the microcontroller. Furthermore, the output of the selection logic block 270 is a “control signal which is applied to a contact output” or the relay as described in paragraph [0020] where, as discussed in connection with FIGS. 1 and 3, each of the calc. compare blocks (shown as 250 and 256 in FIG. 4) produces or generates a binary trip decision value. Selection of one of the binary trip decision values is then determined by the microcontroller based on the faultiness of either the first or second communication channels 100 and 102.

By the present amendment, Applicant has also added a new independent Claim 6 and associated dependant Claims 7-16 to further define applicant's invention.

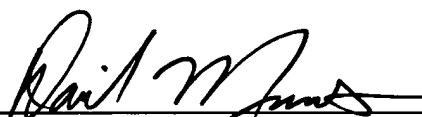
Conclusion

It is respectfully submitted that claims 1-4 and new claims 6-16 are allowable. Accordingly, further and favorable reconsideration by the examiner is therefore urged. With the foregoing in mind, applicant respectfully requests that the Examiner place the present application in condition for allowance.

Should the Examiner be of the opinion that further amendments or response is required, Applicants encourage the Examiner to contact the undersigned attorney at the telephone number set forth below.

Although no additional fees are believed to be due at this time, the Commissioner is authorized to charge any additional fees or deficiencies or credit any overpayments to Alex, Cook, McFarron, Manzo, Cummings & Mehler, Ltd., Deposit Account No. 50-1039 with reference to attorney docket number (1444-0015.01).

Regards,



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Amendments to the Drawings

The attached sheets of drawings include a higher quality rendition of FIG. 3 than originally presented. Additionally, a new drawing, FIG. 4, is added as a separate sheet, subject to approval. Accordingly, drawing sheet 3 containing FIG. 3 replaces original drawing sheet 3, and drawing sheet 4 containing FIG. 4 is newly added.